A predictive model for prediction of heart surgery procedure

ABSTRACT

Coronary heart disease (CHD) is a disease in which plague in the form of waxy substance builds up inside the coronary arteries. Coronary artery bypass grafting (CABG) is used as treatment on CHD patients but the role of CABG has been challenged by percutaneous coronary intervention (PCI) when it was introduced in 1977. Drug eluting stents (DES) was introduced with the development of PCI. The purpose of this study was to find the potential risk factors that associated with the procedures (CABG and DES) and to model procedure (CABG vs DES) on coronary heart disease male patients aged 45 years old and below. The study sample was among male patients aged 45 years old and below who has undergone CABG or DES procedure at either IJN or HUKM from January 2007 until December 2010. Logistic regression was used to model treatment selection on coronary heart disease with 87.3% of the classification rate. Patient who i) smoke, ii) obese, or ii) had dyslipidemia was significantly associated with DES, and the other factors were prone to have CABG as their treatment.

Keyword: Binary logistic regression; CABG; Coronary heart disease; CHD; DES